#6/Req. for Recon

Dkt. 55092 CCD 6-78-02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Kevin WILSON et al.
Serial No. : 09/595,074 Group Art Unit 3737
Filed : June 16, 2000 Examiner A. Imam
For : ULTRASONIC BONE TESTING
WITH COPOLYMER TRANSDUCERS

REPLY UNDER 37 C.F.R. §1.111

1185 Avenue of the Americas
New York, N.Y. 10036
June 3, 2002

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

S I R:

In response to the Office Action dated December 6, 2001, applicants respectfully request reconsideration and further examination of the above-identified application for the reasons set forth below.

Claims 1 - 28 are in the application. Of these, claims 1, 18 and 25 are independent apparatus claims; claims 2 - 9, 13, 14 and 24 are dependent on claim 1; claims 19 - 22 are dependent on claim 18; claims 26 - 28 are dependent on claim 25; claims 10 and 23 are independent method claims; and claims 11, 12 and 15 - 17 are dependent on claim 10.

All the claims have been rejected under 35 U.S.C. §102(e) as anticipated by Mendlein et al.

Each of the independent apparatus claims recites ultrasonic bone testing apparatus (or, in the case of claim 25, osteoporosis apparatus) comprising, *inter alia*, a pair of (or two) ultrasonic tranducers at least one of which comprises a copolymer. Both of the independent method claims recite a method of determining a

characteristic of a bone using ultrasonic transducers at least one of which comprises a copolymer.

Thus, all the claims in the application are expressly limited to apparatus including at least one ***copolymer*** transducer or to a method using at least one ***copolymer*** transducer. The use of ***copolymer*** transducers in apparatus and methods for bone testing apparatus and methods is an particularly important feature of applicants' claimed invention.

Several claims, including claims 23 and 25, specify that the copolymer is a poly(vinylidene fluoride trifluoroethylene). The use of transducers employing these copolymers, i.e., copolymers of vinylidene fluoride and trifluoroethylene, is disclosed in applicants' specification e.g. at p. 19, lines 4-28.

In applying Mendlein et al. to applicants' claims, the Examiner does not cite any teaching of copolymer transducers in the patent, nor is any such teaching seen to be present therein. Instead, the Examiner points to the disclosure in Mendlein et al. Of ultrasonic transducers made of polyvinylidene fluoride (col. 8, lines 45-47). Polyvinylidene fluoride, however, is not itself a copolymer; hence, a disclosure of its use is not a disclosure of the use of any copolymer.

In short, Mendlein et al. does not disclose the presence or use of copolymer transducers in combination with the other apparatus elements or method steps recited in the claims. It follows that Mendlein et al. does not in fact anticipate any of applicants' claims, all of which are, as stated, expressly limited to copolymer transducers.

There is nothing in Mendlein et al. to suggest or motivate a modification of its teaching by substituting copolymer transducers for the types of transducers mentioned in the disclosure. Consequently, it is submitted that each of applicants' claims 1 - 28 distinguishes unobviously, and therefore patentably, over Mendlein et al. by virtue of the above-discussed express limitation of all the claims to ***copolymer*** transducers.

The other two references cited by the Examiner do not require extended consideration, as they have not been applied against the claims. It is respectfully submitted, however, that neither of them shows (as the Office Action asserts) that "piezoelectric transducer made of copolymer is well known in art of ultrasonic measurement of bone characteristics." Sear et al. appears to be directed to transducers used for such purposes as "a microphone in a telephone handset" and the like (see, e.g., col. 1, lines 10-11; col. 5, lines 14-15 and 28-29; col. 6, line 47 - col. 9, line 66) which is remote indeed from use in apparatus or methods for measurement of bone characteristics. Miwa, though broadly dealing with measurement of characteristics of living tissues (see, e.g., col. 1, lines 6-9 and 33-51; col. 3, lines 25-28; col. 4, lines 4-8; col. 12, lines 18-19), is not seen to mention bone; and in any event, the only transducer materials that appear to be mentioned in the patent, "PZT" (presumably lead zirconate-titanate) and polyvinylidene fluoride (col. 3, line 20; col. 8, lines 32-35), are not copolymers.

For the foregoing reasons, it is believed that this application is now in condition for allowance. Favorable action thereon is accordingly courteously requested.

Respectfully,

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I hereby certify that this paper is being deposited this date with the U.S. Postal Service as first class mail addressed to Commissioner for Patents, P.O. Box 2327, Arlington, VA 22202.

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Date: JUNE 5, 2002